Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of:	)	
Proposed Amendments to the Service Rules Governing Public Safety Narrowband Operations in the 769-775/799-805 MHz Bands	)	PS Docket No. 13-87
The Development of Operational, Technical and Spectrum Requirements for Meeting Federal, State and Local Public Safety Communications Requirements Through the Year 2010	)	WT Docket No. 96-86
National Public Safety Telecommunications Council Petition for Rulemaking on Aircraft Voice Operations at 700 MHz	)	RM-11433
National Public Safety Telecommunications Council Petition for Rulemaking to Revise 700 MHz Narrowband Channel Plan	)	RM-11433
Region 24 700 MHz Regional Planning Committee Petition for Rulemaking	)	WT Docket No. 96-86 PS Docket No. 06-229
State of Louisiana Petition for Rulemaking	)	RM-11577

COMMENTS OF
THE NATIONAL PUBLIC SAFETY TELECOMMUNICATIONS COUNCIL

The National Public Safety Telecommunications Council (NPSTC) submits these Comments in response to the Commission's Notice of Proposed Rulemaking in the above-captioned proceedings.[1] These proceedings address a number of rules and proposals for the public safety 700 MHz narrowband spectrum located at 769-775/799-805 MHz. In these comments, NPSTC recommends the Commission 1) eliminate or significantly extend the current December 31, 2016 deadline that requires operation at 6.25 kHz or equivalent efficiency; 2) modify the rules to allow low altitude, low power airborne public safety operations on

[1] Seventh Report and Order and Notice of Proposed Rulemaking, PS Docket 13-87, WT Docket 96-86, RM-11433, PS Docket No. 06-229 and RM-11577, released April 1, 2013.

certain channels currently designated for secondary trunked use; and 3) open the reserve channels for a combination of nationwide deployable use and permanent operations under certain conditions in areas where additional spectrum is required as determined by licensees and RPCs. NPSTC also comments on a number of additional issues raised in the NPRM.

The National Public Safety Telecommunications Council

The National Public Safety Telecommunications Council is a federation of public safety organizations whose mission is to improve public safety communications and interoperability through collaborative leadership. NPSTC pursues the role of resource and advocate for public safety organizations in the United States on matters relating to public safety telecommunications. NPSTC has promoted implementation of the Public Safety Wireless Advisory Committee (PSWAC) and the 700 MHz Public Safety National Coordination Committee (NCC) recommendations. NPSTC explores technologies and public policy involving public safety telecommunications, analyzes the ramifications of particular issues and submits comments to governmental bodies with the objective of furthering public safety telecommunications worldwide. NPSTC serves as a standing forum for the exchange of ideas and information for effective public safety telecommunications.

The following 15 organizations participate in NPSTC:

American Association of State Highway and Transportation Officials American Radio Relay League
Association of Fish and Wildlife Agencies
Association of Public-Safety Communications Officials-International Forestry Conservation Communications Association
International Association of Chiefs of Police
International Association of Emergency Managers
International Association of Fire Chiefs
International Municipal Signal Association
National Association of State Chief Information Officers
National Association of State Emergency Medical Services Officials National Association of State Foresters
National Association of State Technology Directors
National Emergency Number Association
National Sheriffs' Association

Several federal agencies are liaison members of NPSTC. These include the Department of Homeland

Security (the Federal Emergency Management Agency, the Office of Emergency Communications, the Office of Interoperability and Compatibility, and the SAFECOM Program; Department of Commerce (National Telecommunications and Information Administration); Department of the Interior; and the Department of Justice (National Institute of Justice, CommTech Program). In addition, Public Safety Europe is also a liaison member. NPSTC has relationships with associate members, the Telecommunications Industry Association, the Canadian Interoperability Technology Interest Group, the National Council of Statewide Interoperability Coordinators, the Utilities Telecom Council and the Alliance for Telecommunications Industry Solutions.

NPSTC Comments

1. The Commission Should Eliminate or Extend the 6.25 kHz Efficiency Deadline

In 2002 the Commission adopted rules that require public safety licensees in the 700 MHz narrowband spectrum to transition operations to 6.25 kHz or equivalent efficiency by December 31, 2016. Rules were also established that set December 31, 2014 as an interim deadline for manufacturers to cease marketing, manufacturing or importing 700 MHz equipment that is not capable of operating at a 6.25 kHz efficiency. Also, license applications for new systems submitted after the December 31, 2014 date must employ 6.25 kHz efficiency technology. The December 31, 2016 date was chosen by the Commission to provide 10 years of life for communications equipment installed as of the planned date for clearing full power television from the band, which at that time was envisioned to be by December 31, 2006. Congress subsequently extended the TV clearing deadline until June 12, 2009 for full power operations. Low power television and auxiliary broadcast uses remained even longer.

The 700 MHz narrowband spectrum is channelized using a system of 6.25 kHz "building blocks" which licensees can aggregate to form 12.5 kHz or 25 kHz channels. Most public safety systems in the band use 12.5 kHz channels which match the Project 25 Phase I standard set as the interoperability requirement for the 700 MHz narrowband spectrum. Some 700 MHz public safety licensees, generally those located in spectrum impacted areas of the country, have voluntarily implemented Project 25 Phase II trunked systems

which provide a 6.25 kHz equivalent efficiency by placing two traffic slots in each 12.5 kHz channel. For example, the City of Houston and the State of Maryland have implemented such systems, largely because of their significant capacity requirements. Interoperability can still be maintained because P25 Phase II equipment is backward compatible with P25 Phase I.

NPSTC believes that public safety licensees and the regional planning bodies are in the best position to judge whether the higher level of 6.25 kHz or equivalent efficiency is required for a particular jurisdiction and/or region, respectively. Agencies in the congested metropolitan areas may very well need to implement the higher level of efficiency while states, cities and counties with lower population densities may be able to meet their needs more economically with the current 12.5 kHz efficiency. Accordingly, NPSTC recommends the Commission eliminate the December 31, 2016 deadline that currently would require all public safety 700 MHz licensees to meet the 6.25 kHz or equivalent efficiency requirement by that date. In the event the Commission believes there are good reasons not to eliminate the date altogether, NPSTC recommends that the deadline be moved out to

December 31, 2024, consistent with the relief granted to the State of Louisiana by waiver.

Eliminating or moving out the deadline does not mean that jurisdictions should be prohibited from voluntarily implementing interoperable 6.25 kHz efficiency operations. As referenced above, some jurisdictions voluntarily have implemented Project 25 Phase II systems to provide a 6.25 kHz efficiency level and the greater capacity it provides. Furthermore, NPSTC envisions situations in which a given 700 MHz band regional planning committee (RPC) in a congested area could recommend that the Commission require a proposed new system to use 6.25 kHz efficiency.

2. Public Safety Airborne Operations Should be Allowed on the Secondary Trunking Channels

In 2010, NPSTC submitted a Petition for Rulemaking to the Commission proposing that the secondary trunking channels in the 700 MHz band be designated for public safety airborne operations. Public safety agencies including the State of Maryland had advised NPSTC that such a need exists, especially as airborne operations are increasingly important for expeditious transport of victims to trauma centers and for

apprehension of suspects by law enforcement. NPSTC is grateful that the Commission subsequently granted the State of Maryland a waiver and incorporated the NPSTC Petition into this NPRM.

While NPSTC strongly supports making the secondary trunking channels available for public safety airborne use, it also recognizes that steps must be taken to minimize any interference to ground-based operations. Accordingly, NPSTC still supports the 2 Watt power limit originally proposed in its 2008 Petition for Rulemaking. In addition, NPSTC believes the work the State of Maryland has done to coordinate airborne usage with neighboring jurisdictions serves an excellent example of public safety taking the proper steps to meet operational requirements and concurrently minimize potential interference.

Notably, the State of Maryland will also be testing its airborne operation and NPSTC believes such real-world operations can go a long way to help inform any associated requirements that could be beneficial for other jurisdictions and the Commission. NPSTC urges the Commission to modify the rules to allow 700 MHz public safety narrowband spectrum licensees to use the secondary trunking channels for low altitude, low power public safety airborne use and to leverage the experience being gained by the State of Maryland as it defines steps to help ensure interference is minimized.

3. The Reserve Channels Should be Released for Deployable Systems as well as Permanent Use per RPC Recommendations in High Demand Areas

In developing the rules for the 700 MHz narrowband spectrum, the Commission reserved forty-eight 6.25 kHz channel pairs for future designation.[2] In 2008, NPSTC submitted a Petition proposing that all of these 700 MHz reserve channels be released and designated for temporary deployable trunked systems that could be transported into an incident scene for emergency response and recovery. As set forth in the Petition, NPSTC also proposed grouping the channels into multiple trunked sets of 12.5 kHz channel pairs, requiring equipment compliance with the ANSI/TIA-102 (Project 25) standards as required for other 700 MHz interoperability channels, issuing temporary fixed licenses for base stations and authorizing mobile/portable operations by rule.

[2] See Section 90.531(b)(2) of the rules.

Subsequently in December 2012, LA-RICS submitted a waiver request to permit permanent deployments on these reserve channels in the Los Angeles metropolitan area. The LA-RICS request noted that in light of Section 6103 of the Public Safety Spectrum Act which requires that the public safety T-Band spectrum be auctioned and cleared for commercial use, its only option is to deploy a hybrid 700 MHz/T-Band system and the 700 MHz reserve channels will be essential to that deployment.

Based on discussions with LA-RICS, NPSTC believes that there are ways both operational needs can be met. NPSTC recommends that the reserve channels be released and made available for use as coordinated by the RPCs. The RPCs could designate the channel block for use by temporary deployable mobile trunked infrastructure and could designate some of the channels to be used within a given Region where additional capacity is needed, including but not limited to T-band spectrum relief.

Use of these channels, whether for deployable operations or for additional capacity, should meet a uniform nationwide approach for Project 25 equipment and programming parameters necessary to support deployable systems. As discussed in NPSTC's original 2008 Petition, a requirement for effective use of these deployable systems is the standardized use of Project 25 System/Unit IDs, as well as other technical parameters such that no reprogramming of user subscriber radios is required for out-of-area users to operate on one of these deployable systems once they arrive at the scene outside their normal area of operation. During development of NPSTC's 2008 Petition, this topic was discussed with the Project 25 Steering Committee and the Telecommunications Industry Association's TR-8 Private Radio Section's standards committee regarding enabling this capability. The need for further standards was acknowledged should the Commission grant such use. Operational and technical parameters (including frequency blocks) for deployable systems could be established by NPSTC and Project 25 through approved ANSI standards processes.

While details still need to be worked out, NPSTC believes some permanent use on the channels is actually beneficial in seeding equipment for deployable operations. If equipment is maintained in a cache but seldom exercised, there is a greater likelihood that readiness on short notice will suffer. Portable radio batteries may not be fully charged. Public safety personnel may not be inherently familiar with the equipment,

which can cause operational problems, especially in stressful situations such as those major disasters requiring additional temporary transportable communications deployments.

To help ensure interoperability and operational familiarity, NPSTC believes there needs to be some commonality in channel-naming on these channels, whether used for temporary deployments or permanent facilities. NPSTC does not believe including actual channel names in the Commission rules is necessary, however, utilizing the existing ANSI standards process to develop such common channel naming for these channels is needed. Such common channel naming has already been completed and standardized for other 700 MHz conventional interoperability channels.[3] NPSTC can partner with APCO, an ANSI –accredited standards body, to develop a channel naming plan and technical parameters needed to enable nationwide interoperable operation.

4. Two Nationwide "Calling Channels" Should be Re-designated as Nationwide Interoperability Travel Channels

In its 2008 Petition, NPSTC proposed that the Commission re-designate the two upper 6.25 kHz channel pairs (channels 681/1641 and 682/1642) as Nationwide Interoperability Travel Channels. Two lower channel pairs (channels 39/999 and 40/1000) currently designated for nationwide calling would remain for that purpose. Given these 6.25 kHz channels are adjacent and intended for interoperability use, they should be used in the 12.5 kHz Project 25 mode as required by the Commission for other conventional 700 MHz Narrowband interoperability channels. The Commission seeks comment on this proposal in the NPRM.

NPSTC continues to recommend that the upper adjacent 6.25 kHz nationwide calling channel pairs be re-designated for nationwide interoperability travel use. The rationale NPSTC included in its previous Petition on this issue has not changed since the recommendation was made in 2008. Continuing to have two "calling channels" can lead to confusion by first responders regarding which channel should be used for calling in a given area. Further, various public safety entities have indicated there is a need for a 'travel' channel.

[3] See APCO/NPSTC ANSI.104.1-2010 Standard Channel Nomenclature for Public Safety Interoperability Channels.

In the NPRM, the Commission notes that both Canada and the U.S. have designated the 6.25 kHz channel pairs 681/1641 and 682/1642 for public safety interoperability in the border region and asks if they would still be useful for such border coordination in the event the U.S. re-designates the channels as proposed but Canada does not. Typically, public safety operational requirements on both sides of the border are similar. NPSTC believes such use in the U.S./Canadian border region would need to be coordinated with Canada to provide a compatible approach for use of the channels that matches public safety requirements. NPSTC notes that the lower calling channel pairs 39/999 and 40/1000 are clear for use in the US-Mexico border sharing zone.

5. The Data Interoperability Channels Should Revert to Voice Interoperability Use

In its 2008 Petition, NPSTC proposed that the Commission allow tactical voice communications on a secondary basis on the upper two channel pairs (921/1881 and 922/1882) and the Commission seeks comment on this proposal. More recent discussions in NPSTC and APCO indicate that the data interoperability channels identified in 90.531(b)(1)(i) are underutilized. Therefore, rather than allowing tactical voice on these channels on a secondary basis as originally proposed, NPSTC recommends that section 90.531(b)(1)(i) of the rules be deleted and the channels currently designated for data interoperability revert to voice interoperability channels. After over 10 years of equipment development in the 700 MHz band, NPSTC is aware of few data applications that currently use dedicated 6.25 kHz or 12.5 kHz data channels. As evidenced by public safety's involvement in broadband, most dedicated data applications envisioned going forward would require much higher data rates than those that can be accommodated on a 6.25 kHz or 12.5 kHz channel.

6. 700 MHz Narrowband Power Limits Should Be Harmonized with those at 800 MHz

In the NPRM, the Commission points out that different sections of the rules governing

power limits and antenna heights on the 700 MHz narrowband spectrum are in conflict with one another. Section 90.541 provides one set of power limits while Section 90.545 established criteria under which public safety licensees would protect co-channel and adjacent-channel full power TV stations originally in the band when the rules were adopted.

First, NPSTC recommends that the Commission delete provisions in Section 90.545 originally designed to protect full power TV stations as such stations are no longer in the band. The DTV transition concluded in June 2009 and the 700 MHz band no longer supports TV operations. Therefore, Section 90.545 of the rules is no longer necessary.

Second, NPSTC recommends the Commission harmonize the base station and control station power and antenna limits, as well as the mobile power limits in Section 90.541 for 700 MHz narrowband spectrum operations with the limits in Section 90.635 for the 800 MHz band. This is already the case for base stations but not for mobile operations.[4] In public safety, licensees of the 700 MHz narrowband spectrum often utilize both 700 and 800 MHz bands in the same mobile units.

NPSTC also recommends the Commission maintain the limit of 3 Watts transmitter power output (TPO) for portable units in the 700 MHz band, as currently specified in Section 90.541 of the rules. NPSTC also supports raising the power limit on the low power 700 MHz narrowband channels from 2 watts effective radiated power (ERP) to 20 watts ERP while allowing temporary fixed classes of operations but not permanent fixed operations on these low power channels.

7. The Capability to Program Interoperability Channels

In the NPRM, the Commission seeks comment on amending Section 90.547(a) to require only that radios be capable of being programmed to operate on any of the sixty-four 6.25 kHz interoperability channels in the 700 MHz band, allowing contiguous interoperability channels to be combined for wider band

[4] NPSTC also agrees with the Commission's proposal to correct the specific sections of 90.635 currently cross-referenced in Section 90.541 of the rules on base station power limits.

operations, e.g., 12.5 kHz channels. NPSTC concurs that such capability of being programmed to any of the interoperability channels is sufficient. It would be counter-productive for the Commission to require that every radio be programmed to every one of the interoperability channels. In addition to increasing the radio complexity and cost, doing so could increase confusion from an operational standpoint as first responders would need to keep track of which of the sixty-four channels they need to tune the radio. In most cases, operations are made more reliable by simplifying the decisions that need to be made on the ground in a stressful situation, rather than making the required decisions more complex.

8. Interoperability Network Access Codes

Project 25 Network Access Codes (NACs) allow radio users to eliminate listening to traffic not intended for them and instead "hear" only communications directed to their radio address from another radio. The Commission requests comments on standardizing an NAC in the rules. NPSTC recommends that the NACs on the 700 MHz Interoperability channels follow the APCO/NPSTC ANSI 104.1 *"Standard Channel Nomenclature for the Public Safety Interoperability Channels"* standard for use of Network Access Codes in digital operations. This standard was developed by consensus of the public safety community after many hours of deliberations to incorporate the views of users throughout the country in different jurisdictions and different public safety disciplines.

9. The Project 25 Compliance Assessment Program (CAP)

The Commission proposes in the NPRM to require all vendors of 700 MHz narrowband equipment designed to operate on the interoperability channels to obtain P25 CAP certification prior to marketing or sale of such equipment to 700 MHz narrowband licensees. NPSTC supports the P25 CAP program and believes it is beneficial to public safety. Currently, the P25 CAP program is voluntary, although manufacturers of public safety P25 equipment have widely accepted the program and provide equipment that conforms to the

compliance testing. The Responder Knowledge Base (RKB) which lists P25 Certifications and Declarations relative to the P25 CAP program currently catalogs 74 products across 15 vendors that comply.[5] The requirement that purchased equipment be on the CAP list published on the RKB applies only to equipment procurements made with Federal grant funds. Therefore requiring the program in the Commission rules would have significant additional benefit or impact only on equipment purchased with non-Federal grant funds. However, it is unlikely a manufacturer would build a special line of equipment for the same users and operations depending on the source of grant funding.

10. NPSTC Does Not Support Analog Operations on the 700 MHz Band Interoperability Channels

The Commission seeks comments on whether to permit users to operate mobile and portable equipment in the analog mode on the 700 MHz band interoperability channels. NPSTC recommends that such analog operations not be allowed. Despite the perceived benefits of analog operation in certain circumstances by some public safety users, NPSTC believes that mixing analog and digital modes on the interoperability channels inherently leads to operational issues. While Project 25 equipment is inherently multi-mode between analog and Phase I (12.5 kHz digital) such that a Project 25 receiver will present both on-channel analog and P25 digital received signals to the user, the same is not true for analog-only radios receiving a Project 25 Phase I digital signal. Accordingly, an analog user would not hear emergency requests for assistance made by a digital radio user. Therefore, on balance, NPSTC recommends that the Commission permit only digital operations conforming to the Project 25 Phase 1 standard on the interoperability channels.

Conclusion

NPSTC wishes to thank the Commission for developing such a comprehensive NPRM that incorporates a host of issues surrounding the 700 MHz narrowband spectrum of importance to public safety. NPSTC recommends the Commission 1) eliminate or significantly extend the current December 31, 2016 deadline that requires operation at 6.25 kHz efficiency while it maintains a requirement for 6.25 kHz

[5] See www.rkb.us

efficiency in new equipment certified or sold; 2) modify the rules to allow low altitude, low power airborne public safety operations on certain channels currently designated for secondary trunked use; and 3) open the reserve channels for a combination of nationwide deployable use and permanent operations under certain conditions in areas where additional spectrum is required as determined by licensees and RPCs; and 4) conform the 700 MHz power and antenna height limits to those in the 800 MHz band. In addition, NPSTC provides comments on a number of additional issues raised in the NPRM, too numerous to duplicate in this conclusion.

Respectfully submitted,

Ralph A. Haller, Chairman

National Public Safety Telecommunications Council
8191 Southpark Lane, Suite 205
Littleton, Colorado 80120-4641
866-807-4755

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